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British Steel Alloys Inc.

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MATERIAL SAFETY DATA SHEETS

High Performance Corrosion Resistant Alloys	Examples: HASTELLOY® Alloys B-2, C-22, C-276, G-30& 625
Sheet, Plate, Bar, Tubing	

I. INGREDIENTS

Material or Component	CAS Number	% Weight	Exposure Limits	
			OSHA PEL (mg/m^3)	ACGIH (mg/m^3)
Nickel — Base	7440-02-0	Balance	1.0 as Nickel	1.0 as Nickel
Alloying Elements				
Aluminum (Al)	7429-90-5	0.10 – 1.0	5.0 as welding fumes	5.0 as welding fumes
Carbon (C)	7440-44-0	0.01 – 1.0	None Listed	None Listed
Chromium (Cr)	7440-47-3	0 – 31.5	1.0 as chrome	0.5 as chrome
Cobalt (Co)	7440-48-4	5.0 Max.	0.1 as fume and dust	0.5 as fume and dust
Columbium (Cb)	7440-03-1	0.5 Max.	None Listed	None Listed
Copper (Cu)	7440-50-8	3 Max.	0.1 as fume; 1.0 as dust	0.2 as fume; 1.0 as dust
Iron (Fe)	7439-89-6	2.0 Max.	10 oxide fume	5 oxide fume
Manganese (Mn	7439-96-5	0.05 – 2.0	5 as dust; 1 as fume	5 as dust; 1 as fume
Molybdenum (Mo)	7439-98-7	2.0 – 30.0	15 as insoluble compds	10 as insoluble compds
Phosphorous (P)	7723-14-0	.050 Max.	0.1 as Phosphorous	0.1 as Phosphorous
Silicon (Si)	7440-21-3	0.1 – 1.00	10 total dust	10 total dust
Sulfur (S)	7704-34-9	0.001 – 0.35	13 sulfur dioxide	5 sulfur dioxide
Tantalum (Ta)	7440-25-7	Cb + Ta 4.15 Max.	5.0 as Tantalum	5.0 as Tantalum
Titanium (Ti)	7440-32-6	0.70 Max.	15 as Titanium Dioxide	15 as Titanium Dioxide
Tungsten (W)	7440-33-7	0 – 5.0	5 insoluble compds	5 insoluble compds
Vanadium (V)	7440-62-2	0.01 – 1.0	0.5 dust; 0.1 fume	0.05 dust and fume

Note: The above listing is a summary of elements used in alloying steel. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts.

II. PHYSICAL DATA

Physical State: Gas☐ Liquid☐ Solid ☒	Odor and Appearance		Odour Threshold (ppm)	Specific Gravity
	Silver/Gray with Metallic Lustre	N/A	N/A	8.25
Vapor Pressure (mm)	**Vapour Density (Air = 1)**	**Evaporation Rate**	**Boiling Point (°C)**	**Freezing Point (°C)**
N/A	N/A	N/A	N/A	MELTING PT. 1350°C
Solubility in Water (20°)	**% Voluable (by volume)**	**pH**	**Coefficient of water/oil distribution**	
N/A	N/A	N/A	N/A	

III. PERSONAL PROTECTION EQUIPMENT

Respiratory Protection NIOSH approved dust/mist/fume respirator should be used during wesding or burning if OSHA PEL or TLV is exceeded.	**Hands, Arms and Body** Use appropriate protective clothing such as welders aprons and gloves when welding or buring. Check local codes
Eyes and Face Safety glasses should always be wom grinding or cutting; face shields should be worn when welding or burning.	**Other Clothing and Equipment** As required, depending on operation and Safety Codes.

IV. EMERGENCY MEDICAL PROCEDURES

Inhalation:	Remove to fresh air; if condition continues, consult physician.
Eye Contact:	Immediately flush well with running water to remove particulate; get medical attention.
Skin Contact:	If irritation develops, remove clothing and wash well with soap and water. If condition persists, seek medical attention.
Ingestion:	If significant amounts of metal are ingested, seek medical attention.